tumors an immunity can be obtained against virulent tumors. Repeated injections of avirulent material increase the immunity. Not only is there an immunity for the same type of carcinoma but for other strains, and if the immunity for carcinoma is carried to its maximum the mouse is likewise protected against inoculations of sarcoma. The reverse is also true; and in one case a mouse immunized against sarcoma showed partial immunity to inoculations of a transplantable chondroma. This question of "pan-immunity" has been tested still farther by Borrel, who failed in attempts to immunize mice against carcinoma by injections of the livers of mice, and by Bashford, who claims to have produced immunity against the Jensen tumors by injections of the blood of mice.

Schöne (*Münch. med. Woch.*, 1906, liii, 2517), working in Ehrlich's laboratory, has repeated these experiments. He has tried to determine if mice injected with various cells and tissues, other than the tumors of mice, develop any immunity against mouse tumors. For this purpose the embryos of mice, the livers and testicles of mice, chicken embryos and carcinoma of the human mammæ were used. Schöne found that repeated intraperitoneal injections of mice embryos seemed to protect the animals against subsequent inoculations of transplanted carcinoma. In a series of 18 inoculated mice 12 (or 66.67 per cent.) did not develop carcinoma four weeks after the inoculation, while in the 18 controls only 3 (or 16.67 per cent.) proved refractory. With the liver, testicles, chicken embryos, and mammary carcinoma the results were not striking; and though mice treated with these tissues seemed to be more resistant to the inoculations of carcinoma than the controls, the author thinks that the number of his experiments is too small for him to draw definite conclusions. A second series of mice which received repeated injections of the same tissues, except for the mammary carcinoma, showed no immunity against inoculations of a virulent sarcoma.

Active Immunization of Man against Typhoid.—Friedberger and Moreschi (*Deut. med. Woch.*, 1906, xxxii, 1986) prepare an exceedingly powerful vaccine by drying mass agar cultures in an exsiccator, and heating for two hours at 120° to 150° C. At this temperature the bacilli are killed, but the antigens are not destroyed. To test the value of the vaccine fourteen young men, who, of course, had not had typhoid, were inoculated. Injections were made intravenously. Doses of $\frac{1}{50}$ oese produced somewhat alarming symptoms, while much smaller amounts gave rise to high fever and chills. Indeed, the vaccine proved so active that 0.00078 milligram was sufficient to give rise to definite symptoms. After injections of the vaccine the serum of the individuals agglutinated the typhoid bacillus in high dilutions and showed a marked increase over the normal in bacteriolysis.

Typhoid Bacillus Carrier.—The name "bacillus carrier" was given by Forster and Kayser (*Münch. med. Woch.*, 1905, No. 31) to persons, who weeks or years after an attack of typhoid fever, eliminated typhoid bacilli, as proved by culture, in their stools. They described several such cases and suggested that the gall-bladder acted as a reservoir for the typhoid bacilli. Levy and Kayser (*Münch. med. Woch.*, 1906, liii, 2434) report the case of a woman who, in 1903, suffered an attack of typhoid fever. During the winter of 1905 typhoid bacilli were found on ten different occasions in her stools. In October, 1906, she became ill and died of pneumonia. At autopsy the gall-bladder contained a concretion. Enormous numbers of typhoid bacilli were found in the bile, and were cultivated from the centre of the stone. Typhoid bacilli were also found in the spleen and liver. Levy and Kayser conclude that the gall-bladder is the seat of vegetation for typhoid bacilli in the "chronischer Bacillenträger," and point out, moreover, that from the gall-bladder an autoreinfection may take place.

Observations on the So-called Abnormal Fibrous Bands of the Heart.—TAWARA (*Ziegler's Beitr. z. path. Anat.*, 1906, xxxix, 563) has studied these fibrous bands which are not infrequently found in the ventricles, and either cross the cavities or run as isolated bands along the walls, and finds that in their direction they follow the course of the fibers of the atrio-ventricular bundle of muscle fibers. According to Tawara they represent isolated bundles of fibers forming a continuation of the muscular fibers of the main bundle. MAGNUS-ALSLEBEN (*Cent. f. Path. und Path. Anat.*, 1906, xvii, 897) has been able to demonstrate that these anomalous fibrous bands which he has examined in ten different hearts contain muscle fibers, sometimes separated or surrounded by connective tissue. The muscle fibers are characterized by the presence of much sarcoplasm. This, as Tawara has stated, together with scanty development of fibrils is typical of the muscle fibers which form the continuation of the atrio-ventricular bundle beneath the endocardium of the ventricles.

Agglutinins and Specific Immune Bodies in Gonococcic Serum.—VANNOD (*Deut. med. Woch.*, 1906, xxxii, 1984) has prepared a serum by inoculating rabbits with the nucleoproteid of gonococci which is highly agglutinative for the gonococcus. Though the gonococcic serum does not agglutinate staphylococci and streptococci it does agglutinate meningococci. A meningococcic serum agglutinates correspondingly the gonococcus. The gonococcic serum, however, contains antibodies, which are "bound" by the gonococcus, as tested by the method of complement deviation of Wasserman and Bruck; whereas the serum does not contain bodies that are bound by the meningococcus.

Notice to Contributors.—All communications intended for insertion in the Original Department of this JOURNAL are received only *with the distinct understanding that they are contributed exclusively to this* JOURNAL.

Contributions from abroad written in a foreign language, if on examination they are found desirable for this JOURNAL, will be translated at its expense.

A limited number of reprints in pamphlet form, if desired, will be furnished to authors, *provided the request for them be written on the manuscript.*

All communications should be addressed to—

DR. A. O. J. KELLY, 1911 Pine Street, Philadelphia, U. S. A.

CONTENTS.

ORIGINAL ARTICLES.

PAGE

The Diagnosis and Treatment of Cardiac Degeneration Apart from Valvular Disease 657
By Robert H. Babcock, M.D., Formerly Professor of Clinical Medicine and Diseases of the Chest, College of Physicians and Surgeons, University of Illinois, Chicago, Illinois.

A Proper Shoe as an Aid to Treatment in Flat (or Weakened) Feet 668
By J. M. Berry, M.D., Orthopedist to the Samaritan Hospital, Troy, New York.

The Treatment of Compressed-air (Caisson) Illness 679
By Henry H. Pelton, A.M., M.D., Chief of the Medical Clinic, Presbyterian Hospital Dispensary, New York.

A Study of Five Hundred Cases of Pleurisy Occurring at the Pennsylvania Hospital 686
By Frederick Fraley, M.D., Ex-resident Physician to the Pennsylvania Hospital, Philadelphia.

The Relation of the Kidneys to Gastro-enterology 706
By A. L. Benedict, A.M., M.D., Consultant in Digestive Diseases, City and Riverside Hospitals, Buffalo, New York.

Heart-block (Adams-Stokes Disease) 715
By Glentworth R. Butler, M.D., Physician-in-Chief to the Methodist Episcopal Hospital, Brooklyn, New York.

Position of the Motor Areas of the Human Cortex 717
By Hermon C. Gordinier, M.D., Professor of Physiology in the Albany Medical College, Albany, New York.

A Contribution to the Pathology of Refrigeration Facial Palsy . . 730
By L. Pierce Clark, M.D., Visiting Neurologist to the Randall's Island Hospitals and Schools, New York.

The Changes Produced in the Kidneys by Roentgen Irradiation . 736
By Aldred Scott Warthin, M.D., Ph.D., Professor of Pathology, University of Michigan, Ann Arbor, Michigan.

The Pathogenesis of Reflexes, Apropos of a Case of Tuberculoma of the Spinal Meninges 747
By Alfred Gordon, M.D., Associate in Nervous and Mental Diseases in the Jefferson Medical College, Philadelphia.

Scleroma of the Larynx 751
By Emil Mayer, M.D., Adjunct Attending Laryngologist and Chief of Clinic, Ear and Throat Department, Mt. Sinai Hospital Dispensary, New York.